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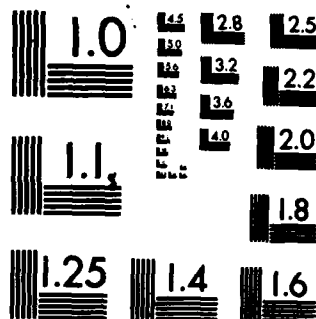
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RESEARCH TO QUANTIFY THE EFFECT OF PERMANENT CHANGE OF STATION MOVES ON WIVES' WAGES AND LABOR SUPPLY

Louis Jacobson

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INTRODUCTION

→ This paper presents a research design to measure the hidden costs imposed on the Navy by policies that require Navy families to relocate about every two years. Although the work is tailored to the evaluation of a specific Navy policy, the analysis itself addresses the broader question of how relocation affects the wages and labor supply of married women.

↖ The paper is divided into four sections. The first section describes the problem associated with relocation (permanent change of station) from the Navy's point of view, and sketches some of the ways the Navy is trying to deal with and/or evaluate the problem. The second section describes the relocation problem from the point of view of a family facing relocation. A model of time allocation is presented to describe how wives react to a relocation. The third section describes how the full costs of relocation to Navy families can be estimated and discusses problems stemming from self-selection bias. The final section describes a data set that can be used to carry out the empirical work and some tabulations of the data.

HOW PCS MOVES AFFECT THE NAVY

Permanent change of station (PCS) moves are costly to the Navy. First, the Navy must pay most of the direct costs of the moves. Second, the Navy loses productivity in the short-run because the Navy mover must devote considerable time to arrange the move, make the move itself, and adjust to a new station. In the long-run, productivity also can be lost because full adjustment to the new station does not occur before another move is required. Third, to the extent Navy families are not fully compensated for the costs of the move, the Navy must bear the cost in terms of reduced retention. Some direct costs are not fully covered, but more importantly, moving creates psychic costs and reduces incomes of family members. Spouses and other dependents must give up jobs and take time to make the move.

The Navy recognizes that PCS moves are costly and has adopted policies to reduce moves. A pilot project is being tested which gives individuals in selected ratings (occupational specialties) the option of "home porting"—maintaining their residence in the same area for more than one tour. In addition, the Navy has long-run plans to group facilities at major ports so sea-shore rotation will require fewer relocations.

The direct costs of PCS moves are well quantified, but indirect costs are not. In the absence of a comprehensive assessment, it is

difficult to know if enough is being done to reduce moves or lower their costs to Navy personnel. The study described in the paper is designed to quantify one of the two major indirect costs--the effect of PCS moves on family income.

Migration studies show that annual earnings of civilian spouses can be reduced by \$1,000 or more [14], and migration generally occurs when the return to the principal wage earner is sufficient to overcome the loss to other family members. Since Navy pay-setting procedures do not attempt to maintain comparability between military and civilian families, we expect PCS moves reduce Navy families' incomes substantially below that obtainable in the civilian sector. One possible by-product of this work is improvement in the comparability calculation by taking the effect of PCS moves into account.

In addition to the direct evaluation of military-civilian earnings differentials, knowledge of the cost of PCS on spouses can be used to measure the effect of moves on retention. The effects of these costs on retention should be similar to that of any factor that increases the monetary cost of being in the military relative to being a civilian. The cost can be entered, as would any other differential, into existing retention models. At present CNA is introducing information about the type, frequency, and timing of PCS moves into the "ACOL" retention model. Since most Navy personnel make PCS moves, this effort will primarily enhance the model's projections of the timing of separation

decisions, as well as measure the effect of sea tours on retention. Use of a direct measure of the cost on family members will complement this work by facilitating measurement of the overall effect of PCS moves on retention. This information is necessary to evaluate the effect of major alterations in PCS policy.

In short, the Navy should benefit from knowing the amount pay could be reduced if PCS moves were eliminated or substantially curtailed. It could be that the potential savings are so great that major investments to reduce moves would be warranted.

HOW PCS MOVES AFFECT SPOUSES' EARNINGS

PCS moves reduce spouses' earnings in three key ways. First, earnings are reduced while the spouse changes jobs. A considerable period of low wages and high unemployment is likely to follow relocation. In part, this is a result of having to try several jobs before finding one that is suitable. Finding work is almost always time consuming, but will be particularly difficult for job seekers who do not select the timing of job change and must search in a new labor market.

Second, earnings are reduced because frequent moves restrict occupational choice and opportunities for gaining on-the-job training and experience. It often takes several years to locate and be hired by employers that offer substantial training of any sort; frequent movers

will rarely be able to take advantage of such opportunities. Perhaps more importantly, many firms that offer high pay and good advancement opportunities also reward high job-tenure. Frequent movers, even if they can get hired, will lose much of the benefits from employment in these firms. Instead, frequent movers are likely to enter occupations where employee turnover is high. Typical occupations in this category, such as sales help and waitresses, require little training and are low paying, although there are a few occupations, such as nurses, teachers, and secretaries, where general training is more easily obtained and pay is somewhat higher.

Third, earnings are reduced because spouses withdraw from the labor market rather than bear the costs of frequent job search and work in less desirable occupations. Of course, not all labor force withdrawals (or decisions to work part time) are induced by reductions in earnings potential due to PCS movers (or other aspects of military life). Many families elect for the spouse not to work, but rather to take care of children or do other non-market activities.

Given the growing number of families where both husband and wife work and the trend to delay childbearing, the cost of PCS moves is probably high and growing. In 1970 only 30.5 percent of military wives were in the labor force. This was about 10 percentage points less than for civilian wives. By 1979 both groups showed about 50-percent labor force participation rates, a 20-percentage point jump for military wives

[4]. (The same survey showed that unemployment was about twice as high for military wives and hours worked were considerably less.) In addition, most military personnel make simultaneous decisions about staying in the military and marrying. Only 7 percent of enlisted personnel and 29 percent of officers are married when they enter the Navy [2]. It is likely that a growing number of servicemen find being married incompatible with remaining in the Navy.

MODELING THE EFFECTS OF RELOCATION

The issue of married women's earnings and labor supply has attracted considerable attention in the literature [6, 8, 10, 11, 12]. Family migration decisions have also been examined [3, 9, 14]. Considerable insight into the structure of the decision-making process and a substantial number of useful empirical estimates have been developed. No single model describes all the effects listed in the preceding subsection for situations where repetitive moves occur. A number of models incorporate optimization over relatively long time horizons [3, 10, 7, 13, 16]. These models have been used to describe the effects of long-term interruptions, such as childbearing, on occupational choice and labor force participation. They do not describe the effects of short-run interruptions. The key to doing this is development of a model that describes job search given a one-period planning horizon.

A simple model which incorporates job search into a one-period labor-leisure choice model is described by the following four equations.:

$$1) \quad U = U(Y, L) \quad \frac{\partial U}{\partial Y} \equiv U_Y > 0 \quad \frac{\partial U}{\partial L} \equiv U_L > 0$$

$$2) \quad T = L + H + S$$

$$3) \quad Y = w \cdot H$$

$$4) \quad w = w(S) \text{ with } \frac{dw}{dS} \equiv w' > 0$$

where

U = utility

Y = income

L = hours of leisure

H = hours worked

S = hours of search

T = total time available

w = wage rate

Equation 1 is a utility function. Adding income and/or leisure increases utility. Equation 2 describes the time constraint. Here job search (S) is included as a possible use of one's time in addition to work and leisure. Equation 3 is the income constraint. Equation 4

shows the wage rate (w) as a function of the amount of job search. We assume that the more time spent searching the higher the wage ($dw/dS > 0$). This equation is the major difference between this model and standard models used to describe labor-leisure choice.

Figure 1 describes the choice set facing the worker. Each level of search generates a unique wage offer, which in turn establishes the tradeoff between income and leisure. The tradeoffs at three levels of search are illustrated. The points which maximize utility for each level of search are indicated by points c , c' , c'' . As search varies from zero to T an envelope of search constrained optimal income-leisure combinations is created. This envelope is illustrated by the curve dd' .

The worker selects among the constrained maxima the one which maximizes utility. This determines the globally optimal combination of search, work, and leisure.

The conditions for maximizing utility are described mathematically by equations 5 through 9:

$$5) \max U = U(w.H, T-S-H)$$

$$6) \partial U / \partial S = U_Y (H.w') + U_L (-1) = 0$$

$$7) \partial U / \partial H = U_Y . W + U_L (-1) = 0$$

$$8) U_L / U_Y = w$$

$$9) H . w' = w$$

Income

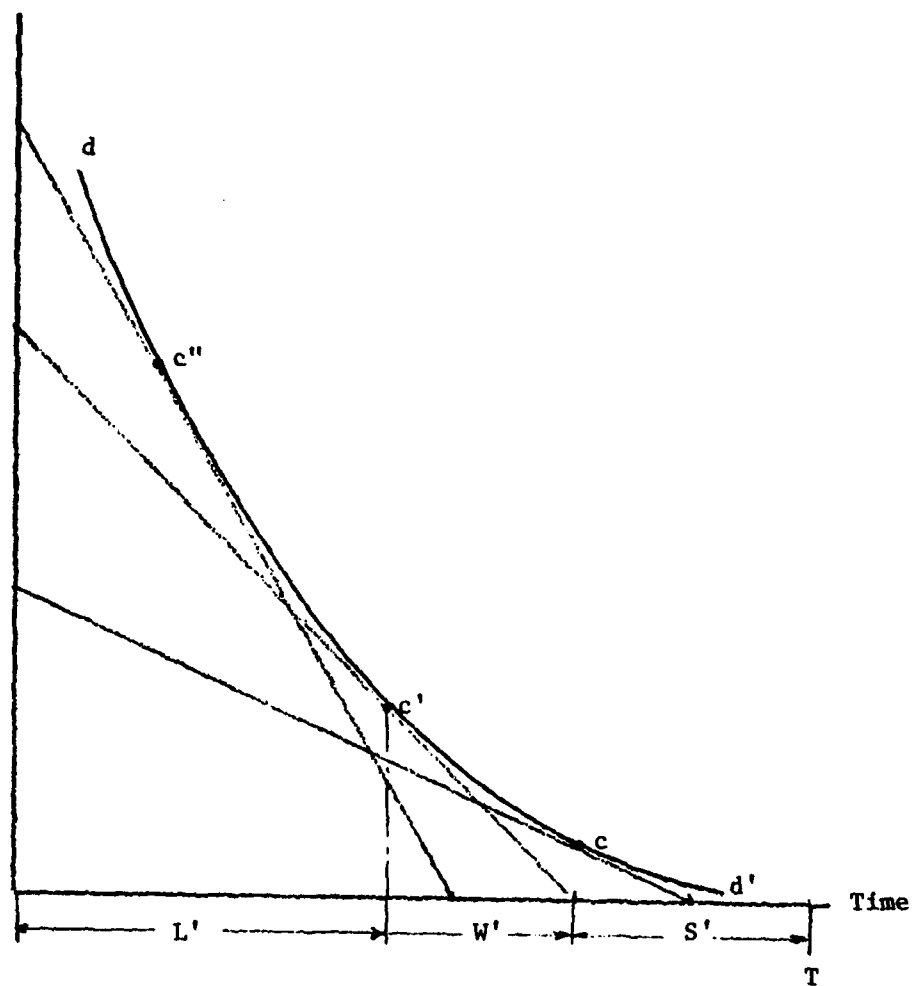


Fig. 1: Optimal Search-Work-Leisure Tradeoffs in a One-Period Model

Equation 5 is derived by substituting equations 2 and 3 into equation 1. Equations 6 and 7 present the maximization conditions. Equation 8 is derived from equation 7 and is the standard condition for utility maximization--the utility sacrificed by giving up an additional "hour" of leisure is exactly equal to the utility gained from the increase in income stemming from an additional hour of work. This ensures utility cannot be increased by exchanging leisure for work or vice versa. Equation 9 is derived from solving equations 7 for U_L , substituting the expression into equation 6 and dividing by U_Y . The resulting condition is that at the optimal point the income given up to search one more "hour" (w) is equal to the income gained from an additional hour of job search ($H \cdot w'$). (The income gained is equal to the marginal increase in the wage rate (w') times the number of hours worked (H).) This ensures that utility cannot be increased by exchanging search for work or vice versa. The global maximum is assumed to be at point c' in Figure 1. This coincides with S' search, W' work, and L' leisure.

One key characteristic of this model is that considerable leisure must be sacrificed in order to search enough to obtain a wage sufficient to make even one hour of work worthwhile. Individuals who value "leisure" highly, such as wives with young children, are, therefore, unlikely to work at all.

Second, the sacrifice of time in order to search reduces the utility of individuals who must search every period relative to those who can hold a job for a long period. If an individual holding the optimal job described in Figure 1 could hold the job for just one additional period, the time that otherwise would be needed to search can be converted to a substantial increase in utility (both income and leisure). This case is illustrated in Figure 2.

The situation facing a person who must change jobs at regular intervals, such as a Navy wife, is even more adverse than shown by Figure 2. If individuals knew at the outset that they had a two-period time horizon, they would further optimize their work-leisure-search choice by searching more in period 1 to raise their wage rate. The formal condition for optimal two-period search is shown by equation 10. (The derivation is shown in appendix A.)

$$10) \quad [H_1 + H_2 (1-r)] w' = w$$

where H_1 = hours worked period 1

r = interest rate

This equation implies that a marginal gain in the wage rate (w') is now worth more than it is in a one-period model because the longer time

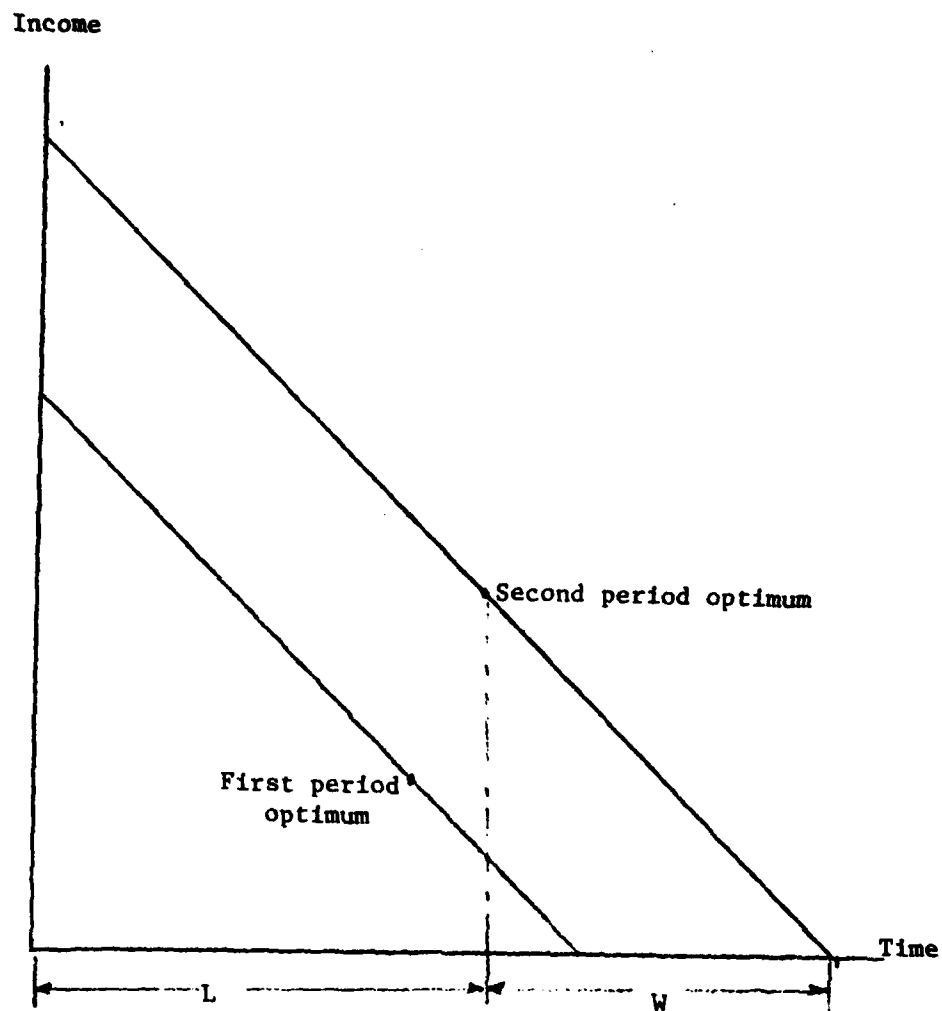


Fig. 2: Optimal Work-Leisure Tradeoff if Time Horizon Extended Into a Second Period

horizon provides more time over which to amortize the investment in search ($H_1 + H_2 > H$).*

Finally, the model implies that lowering search time is especially valuable for individuals facing one-period time horizons. They will, therefore, select occupations where search time is minimized. This will increase income given repetitive job change but will restrict job choice and thus accentuate the reduction in wage rates and life cycle earnings relative to individuals with long time horizons.

EXTENSIONS OF THE BASIC MODEL

This discussion of the differences in optimization between one-period and two-period time horizons implies that the basic model would be more realistic if it included the factors determining the expected wage rate and the value of leisure for individuals with different work experience and training. The basic wage model, equation 4, can be enhanced by the inclusion of variables describing human capital accumulation and market forces as well as search. An example is shown in equation 11.

$$11) \quad w = f(K, E, G, M, S)$$

* An interesting aspect of the two-period model is that to gain the higher wage, hours worked in the first period go down relative to the one-period solution but go up in the second period. This creates a disparity in utility between the two periods that would be adjusted by borrowing from the future income stream (or dissaving).

where

- K = initial endowment of fixed human capital on leaving school
- E = subsequent work experience
- G = fraction of experience that is general rather than specific
- M = labor market strength
- S = search

A key feature of this enhanced model is that including prior work experience as a determinant of wages will accentuate the long-run negative effect on wage rates of having to take time away from work to repetitively search for work. We also expect that repetitive movers will accumulate mostly general training. This will weaken the ties between the worker and firm and increase the negative effect of business swings on employment. Repetitive movers also will be more adversely affected by business fluctuations because they cannot choose when they relocate and avoid relocation when business conditions are bad.

The key factors which affect the value of leisure is the number and age of children and the value of one's home and how long one has lived in it. Young children require so much home care that wives with young children can only work if they can arrange alternative childcare. This is often expensive and/or difficult to do. Because relocation is relatively less costly when the wife is out of the labor force, it is possi-

ble that many military families choose to have children but then leave the military when home care becomes less important and the sacrifice in family income increases. Relocation may also affect the value of leisure because the returns to decorating a new home, locating schools, and shopping centers are particularly high for new arrivals in a given area. The necessity to invest one's time in these activities could be a major cost to military families. This effect occurs on top of the straightforward disruption caused by the need to search for work discussed earlier.

Formally modeling childbearing and other forms of home production are quite difficult. It would require substantial modification to the basic model but add relatively few testable hypotheses. We will, therefore, adopt the standard practice of including the key variables in the reduced form estimating equations but not building an explicit model.

ESTIMATION OF THE EFFECT OF PCS MOVES ON EARNINGS

The main objective of this project is not simply to describe theoretically how PCS move policy affects the wages and hours of work of military wives but to determine by how much reduction in PCS moves would increase the utility of military families. Ideally, we would like to know by how much military pay could be reduced for alternative reductions in relocation. As a first approximation to this figure we will

estimate by how much reduced relocation will increase wages, hours, and, because of data limitation, earnings of military wives.*

A number of different comparisons can be used to obtain evidence about the effect of PCS moves on earnings. To provide evidence about the short-run effects of relocation, the wages and hours of military wives who relocated in a given calendar year can be compared to that of those who relocated a year earlier. This is equivalent to comparing the actual leisure-work-search decision illustrated in Figure 1 to that in Figure 2. This will understate the total effect because it will not include the wage rate adjustment and effect on occupational choice that would occur over a longer time horizon. The long-run adjustment of wages and hours can be examined by observing the work-leisure choice of civilians with similar characteristics to military wives for a number of years following a relocation. Because civilian couples generally do not move repetitively, we can reasonably assume civilian movers will remain in the same place for a number of years and thus observe the initial disruptive effect and return to equilibrium. An alternative procedure,

* The size of the lump sum tax that could be imposed on a military family and not reduce utility is equal to the increase in (life cycle) earnings if the allocation of hours across different activities did not change in response to a change in wages. This would occur if an individual routinely worked a full-year full-time job and hours were constrained not to exceed some set level or if the individual was constrained to be home to take care of children. If hours decreased the lump sum tax that would restore the individual to the initial indifference curve would be greater than the gain in income. If hours increased the tax would be less.

which may be hard to estimate in practice, is to observe the wages and hours of military wives after the husband leaves the service.

In both cases it will be important to include the effect of husband's earnings and assets on the wife's labor supply decision. If the husband's earnings dramatically increase after relocation, this would reduce the wife's incentive to work. The reverse would be true if the move was triggered by the husband's difficulty in locating suitable work in the origin labor market.

The civilian-military comparison should take into account differences in fringe benefits, especially pensions and, if possible, correct for the possible bias due to the joint nature of civilian relocation decision. The family will not relocate if the damage to the wife's earnings potential is too great. This may cause underestimation of the loss due to relocation.

It would also be desirable to address the question of the extent to which bi-annual relocation precludes families from entering or remaining in the military (as opposed to how ending relocation would affect those currently in the military).

Measurement of the cost of relocation to wives in a broad range of occupation, not just those in occupations which are similar to current military wives, would provide useful information about these costs. The

effects on recruitment could be evaluated by using such estimates to determine how much PCS moves would reduce the income of wives whose husbands would be likely to join the military. (The likelihood of a husband enlisting could be measured in a rough way by determining how closely their demographic, educational, and work history characteristics match those of military men.)

SELF-SELECTION

A number of types of self-selection affect the analysis. In at least one case, self-selection may substantially bias the estimates. This case is wives' decisions to self-select themselves out of the labor force. The bias arises because we must estimate the earnings potential of such wives by observing the earnings of wives who work. The earnings of working wives, however, will be higher than the earnings non-workers could receive on average. (We cannot observe low offers because if the offer is less than the value of non-market time it will not be accepted.) As earnings potential drops the probability of getting acceptable offers drops as well. This causes the size of the over-estimate to be correlated with variables such as education or experience which determine earnings potential. It is this correlation which is the direct source of bias. Fortunately, Heckman [6] has described a procedure for handling this specific problem in analyzing labor force participation of married women. This procedure, which has become standard, will be used in the estimation.

A number of other cases of self-selection are important in properly interpreting estimating equations but should not require special estimating techniques. An obvious example is that women who have low earnings potential or value non-market activity highly are more likely to self-select military husbands. This selectivity will lower the extent to which reducing moves will raise earnings. Similarly, military wives will select occupations where job change is less costly. Relocation will, therefore, reduce the earnings of civilian wives who work more than for a comparable sample of military wives.

Finally, military wives may be more likely to have children than similar civilian wives because of the limitations on working. To the extent this is true the reduction in earnings should be attributed to military service not to the presence of children. Properly dealing with child bearing behavior is likely to be one of the most difficult elements of the work. The effect of military service on child bearing is not clear. Military service may influence the timing of births, rather than number or spacing, and timing has relatively little effect on life-time earnings.

DATA

A data set which combines a household survey--the March 1976 Current Population Sample (CPS), with Social Security Summary Earnings Rec-

ords (SERs) from 1951 through 1978 for the sample population, will be used for estimation. These data have a number of desirable features. First, the sample is extremely large and includes military households. There are 43,000 households in the sample, over 90 percent of which include a married woman, and 413 households with married women are headed by a military man. Because relocating, especially over distances comparable to those required in the military, is relatively rare, a large civilian sample is needed. Second, the data contain most of the information one would want to use. A list of variables is shown in Appendix B at the end of this paper. The data include an extensive description of the demographic and education of all family members. There is also a great deal of information about characteristics of the longest job held in 1975 and detailed information on 1975 earnings, unemployment, weeks and hours worked, and sources of unearned income for each family member. Migration in 1975 is described in detail as well.

A number of data items are not present which could be useful, especially information about job tenure, earlier migration, date of marriage, and dates of military service. Obviously it would be useful if the population was surveyed annually (as are the NLS and PSID populations). This would provide a time series of wages and hours and might allow the large sample of veterans in 1975 to be used in the analyses. To some extent the SER data can be used to compensate for these shortcomings. The SER includes annual earnings (up to a taxable limit) and can be used to proxy labor force participation, work experience, and steadiness of work (by observing year-to-year fluctuations).

Initial tabulations of the data indicate that many of the sample characteristics which we might anticipate based on the foregoing discussion are, in fact, found in the data. Table 1 compares differences in migration between the entire military sample and a large civilian sample. As expected about half of the military households change at least residences between 1975 and 1976 and a third move considerable distances. Only about 15 percent of civilian households change residences and a mere 2 percent relocate long distances. Table 2 compares the labor force status of military and a sub-sample of civilian wives. About half of each group are not in the labor force but only 12 percent of military wives work full time full year as opposed to 32 percent of civilian wives. Table 3 confirms that relocation plays a major role in reducing the amount of work, but except for relocation abroad, has little effect on whether a wife is in the labor force. The statistics show that the proportion of military wives who work full time (either full or part year) is about the same among those who stay in the United States and only about 15 percent (6 percentage points) less than for the civilian sample. Since full time is defined as being in the labor force at least 50 weeks, and these results do not control for other factors (such as education and age of children), the actual difference between military and civilian wives may be overstated in these comparisons.

TABLE 1

COMPARISON OF MIGRANT STATUS OF MILITARY AND CIVILIAN WIVES

Location 1975 relative to 1976	(1) Military (N=413) (%)	(2) Civilian (N=23,059) (%)
1. Same house	49.4	86.2
2. Same county different house	13.6	8.5
3. Same SMSA different county	1.2	.6
4. Same State different county and SMSA	2.7	2.3
5. Contiguous State	5.8	.7
6. Noncontiguous State	19.9	1.4
7. Abroad	7.5	.3

TABLE 2

COMPARISON OF LABOR FORCE STATUS OF
MILITARY AND CIVILIAN WIVES 1975

	(1) Military (N=413) (%)	(2) Civilian (N=62) (%)
1. full-year full-time	12.1	31.7
2. full-year part-time	3.6	6.3
3. part-year full-time	18.6	6.3
4. part-year part-time	16.7	7.9
5. not in labor force	48.9	47.6

Note: Part-time = <35 hours/week.

Part-year = <50 weeks.

A military wife is married to a member of the armed forces.

TABLE 3

LABOR FORCE STATUS BY MIGRANT STATUS MILITARY WIVES 1975

	Non- mover (%)	Local mover (%)	Rest of US mover (%)	Moved abroad (%)	All military wives (%)
full-year full-time	17.6	9.7	6.7	----	12.1
full-year part-time	5.9	1.4	.9	3.2	3.6
part-year full-time	12.3	26.4	29.2	6.5	18.6
part-year part-time	18.1	19.4	14.2	9.7	16.7
not in labor force	46.1	43.1	49.1	80.6	48.9

Note:

Local mover

changed residence but remained in same state
and/or same SMSA (80% remained in the same
county).

Rest of US mover

changed state and SMSA (80% moved to a non-
contiguous state).

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APPENDIX A

THE OPTIMAL AMOUNT OF SEARCH IN A TWO PERIOD

UTILITY MAXIMIZATION MODEL

- 1) $U = U(C_1, L_1) + (1-p)U(C_2, L_2)$ Utility function
- 2a) $L_1 = T - S_1 - H_1$ time constraint period 1
- 2b) $L_2 = T - H_2$ time constraint period 2
- 3a) $C_1 = Y_1 + (1-r)B$ budget constraint period 1
- 3b) $C_2 = Y_2 - B$ budget constraint period 2
- 4a) $C_1 = W(S) \cdot H_1 + (1-r)B$ substitution of wages x hours
- 4b) $C_2 = W(S) \cdot H_2 - B_1$ into the budget constraints

where

- C = consumption
- L = leisure
- U = utility
- p = internal rate of discount
- T = time available in one period
- S = search
- H = time working

B = borrowing from future income stream

r = market rate of interest

$$1a) \quad U = U(W(S).H_1 + (1-r).B, T-S_1-H_1) + (1-p)U(W(S).H_2-B, T-H_2)$$

substituting 2 and 4 into 1

$$5) \quad \frac{\partial U}{\partial S} = U_{C_1} H_1 w' + U_{L_1} (-1) + (1-p)U_{C_2} H_2 w' = 0$$

$$6) \quad \frac{\partial U}{\partial H_1} = U_{C_1} w + U_{L_1} (-1) = 0$$

$$7) \quad \frac{\partial U}{\partial H_2} = (1-p)U_{C_2} w + (1+p)U_{L_2} (-1) = 0$$

$$8) \quad \frac{\partial U}{\partial B} = U_{C_1} (1-r) + (1-p)U_{C_2} (-1) = 0$$

$$9) \quad U_{C_1} H_1 w' + (1-p)U_{C_2} H_2 w' = U_{L_1} \quad \text{rearranging 5}$$

$$10) \quad = U_{C_1} . w \quad \text{substituting 6 into 9}$$

$$11) \quad U_{C_1} H_1 w' + (1-p) \left(\frac{1-r}{1-p} \right) U_{C_1} H_2 w' = U_{C_1} . w \quad \text{substituting 8 into 10}$$

$$12) \quad (H_1 + (1-r)H_2)w' = w \quad \text{dividing by } U_{C_1}$$

APPENDIX B
VARIABLES ON CPS-SER TAPE

Earnings-Hours-Labor Force Status
(Dependent Variables)

1. Earnings 1975 (from interview)
2. Wanted full-time full-year work (yes/no)
3. Wanted part-time full-year work (yes/no)
4. Wanted full-time part-year work (yes/no)
5. Wanted part-time part-year work (yes/no)
6. reason part-year
unable, home, school, other
7. reason part-time
only find, wanted, slack, unable
8. why no work
home, school, can't find, other
9. weeks worked
10. weeks worked part-time
11. weeks unemployed/looking
12. average hours per week
13. wage [derived from--earning/(weeks x hours)]
14. Social Security earnings 1975-78
(up to taxable limit)

Employment Status March 1976

15. full-time
16. part-time

17. unemployed/looking

18. keeping house

19. other

Demographic Characteristics

20. wife living with husband (yes/no)

wife's:

21. age

22. race

23. education

husband's:

24. age

25. race

26. education

number of:

27. dependents

28. children

29. children under 14

30. children out of school

- 31. sub-family members
- 32. secondary family members

Wife's Work History

- 33-37. Social Security earnings 1970-74
- 38-42. earnings dips 1970-74
 - (earnings year $t < 90\%$ of earnings year $t-1$)
- 43. first year between 1951 and 1974 earnings $> \$500$ (1970 dollars)
- 44. first year between 1951 and 1974 earnings $> \$2000$
- 45. number of years between 1951 and 1974 earnings $> \$500$
- 46. number of years between 1951 and 1974 earnings $> \$2000$
- 47. consecutive years prior to 1975 earnings $> \$500$
- 48. consecutive years prior to 1975 earnings $\$2000$
- 49. number of jobs 1975
- 50. lost jobs or layoff 1975
- 51-66. industry (16 major groups)
- 67-79. occupation (13 major groups)
- 80-83. class of worker
 - private, public, self-employed, other

Family Income

A. 1975 income (from interview)

- 84. husband's earnings
- 85. children's earnings
- 86. other family member's earnings
- 87. total unearned income
- 88. welfare
- 89. UI

B. Income 1970, 71, 72, 73, 74 (from SER)

- 90-94. husband
- 95-99. children
- 100-104. other family members

Location 1975-1976

- 105-109. Region of residence 1975

North, North Central, South, West, Other (abroad)

- 110-115. type of area 1975 and 1976

central city, SMSA, Non-SMSA

Relocation

- 116. different house
- 117. same house, same county

- 118. same SMSA
- 119. same state
- 120. contiguous state
- 121. non-contiguous state
- 122. abroad

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